St Joseph's School
El obour

Science Department

5th Primary
2nd term



Name: ....

Class: ....

Unit One: Friction

Lesson (1): Friction

Complete:

1-when a body touches another body,a ……………………… arises.

2-The force that slows down the object's motion is called ………………

3-The effect of the friction is in the …………..… direction of the object's movement.

4-The friction force has an effect in the opposite direction of ………………

5-When you put a plastic cube on the top of the sloping wooden board, the cube moves downwards ,so the direction of the friction force is ……………

6-When you stop pedaling during the movement of the bike, its speed decreases gradually until it stops due to the effect of ……………………

7-…………… increases by increasing the surface area of a moving object.

8-The value of ……..… between two surfaces depends on the type of material of both surfaces.

9-The friction force between rubber and dry cement is ……………………, while the friction force between glass and glass is ……………………

10-The damage of machines is due to ………………………….between their moving parts.

11-……………………… and ……………………….are used to decrease the effect of friction force between the internal moving parts of machines.

12-……………… is formed of a group of small metallic balls with smooth surfaces.

13-Technicians put …………… between………… to decrease the friction force.

14-The axis of the car engine that transmits the motion from it to the wheels contains……………………..

15-Ball bearings are designed to reduce the friction because they contain ………… balls that have …………………… surfaces.

Give reasons for:

1- The ball moves on the wet cement for a longer distance than on the dr4y cement.

……………………………………………………………………………………………

……………………………………………………………………………………………

2- Friction force has many disadvantages.

……………………………………………………………………………………………

……………………………………………………………………………………………

3- Technicians put ball bearings between the internal moving parts of machines.

……………………………………………………………………………………………

……………………………………………………………………………………………

Lesson (2): Friction applications

Complete:

1-The increase in the speed of a body touching the ground increase………………..

2-The friction between two solid objects increases by increasing …………………… and ……………………….

3-Car tires have ………………… connected with …………………..to squeeze the water out.

4-When an object moves in air, the ………………..acts against its movement.

5- The friction force between air and the object that moves through is called ………………………..

6- Air resistance affects in ………………….to the movement direction.

7- …………………and ………………….are the factors that affect air resistance.

8- By increasing the speed of a car, air resistance ……………………

9- Air resistance ………………… when the car or the bicycle moves slowly.

10- When air resistance is equivalent to the increase in the speed of a bird , the bird flies with a ………………….

11- There is a ………………relation between the surface area of the moving bird flies through air and air resistance.

12- Rockets , ………………,……………… are designed in streamline shapes to ……………………

13- Birds have ……………….to decrease air resistance.

14- Parachutist opens the parachute during landing to ………………..

15- Parachutist opens the parachute and birds stretch their wings during landing to increase ……………….that accordingly increases the …………….

16- When a body moves through water, it is affected by …………………

17- Water resistance acts in the ………………… to the movement direction.

18- The friction force between water and the object that moves through is called …………………..

19- The movement of fish or ships through water is in the opposite direction to ………………..

20- ……………….and ……………….are the factors affecting water resistance.

21- Fish have streamline shapes to …………………..

22- By increasing the speed of ships in water, the ……………… increases and vice versa.

23- The friction between your shoes and ……………… helps in walking and prevents …………………

24-………………… enables us to walk on the ground.

25-………………...of a match is from the advantages of friction.

****

Put (✓) or (X), then correct:

1-The moving car is affected by air resistance in the same direction of its movement ( )

2-The friction force increases by decreasing the speed of the body ( )

3-When the friction force is equal to the force that results from the increase in the speed of the car, the car speed equals zero ( )

4-Car tires have narrow channels to prevent water from staying between tires and the road ( )

5-Car tires have curved grooves to squeeze the water out ( )

6-Air resistance decreases when the car moves so fast ( )

7- The relationship between the surface area of an object exposed to air and the air resistance is an inverse relation ( )

8- By increasing the bicycle speed , air resistance increases ( )

9-When the friction force acting on a moving car is equal to the increase in the movement force , the car moves with a constant velocity ( )

10-Water resistance increases by increasing the surface area of the moving object ( )

11-Rockets and trains are designed in streamline shapes to increase air resistance ( )

12-The car speed shouldn't increase up to a certain limit to save fuel ( )

Give reasons for:

1-The friction force depends on the speed of the body and its surface area.

……………………………………………………………………………………………

……………………………………………………………………………………………

2-Car tires should be replaced when their grooves disappear.

……………………………………………………………………………………………

……………………………………………………………………………………………

3-Car drivers shouldn't increase the car speed up to a certain limit.

……………………………………………………………………………………………

……………………………………………………………………………………………

4-Parachutist opens the parachute on landing.

……………………………………………………………………………………………

……………………………………………………………………………………………

Unit (2): Circulatory system & Urinary system

Lesson (1): Circulatory system & circulation

Complete:

1-The system that transports the digested food and oxygen to all the body cells is called ………………….

2-The ………… system consists of ……………,…and…………….

3-The circulatory system transports ……………….,…….and……………. to all the body cells.

4-In each side of the heart, there is a …………… prevent the blood from returning back to the atrium.

5-Arteries transport the blood from ………………… to…………………….

6-…………....begin at the heart and end at the body cells , while …………… begin at the cells and end at the heart.

7-All veins carry blood rich in carbon dioxide except the ……………….

8-The yellow watery component of the blood is called ………………..

9-The right atrium receives blood rich in ……………….

10-………………..ventricle pushes the blood to the two lungs through…………….

11-The ……………….is the source of pulse in your wrist.

12-The healthy balanced food must be low in …………….and ……….

13-……………. begin with blood capillaries.

14-……………. carry blood rich in oxygen.

15-The blood is liquid due to the presence of the ……………..

16- ……………….is the blood circulation between the heart and all the parts of the body.

****

Write the scientific term:

1- It allows the blood flow from atrium to ventricle and not in the opposite direction. [………………………..]

2- One of the heart chambers that pumps the blood to all the body cells. [………………………..]

3- The ends of arteries and the beginnings of veins. [………………………..]

4- The artery that carries blood from the right ventricle to the lungs.
[……………………………]
5- The chamber of the heart that receives blood rich in carbon dioxide.
[……………………………]
6- The chamber of the heart that receives blood rich in oxygen.
[……………………………]
7- The chamber of the heart that pushes the blood rich in oxygen to all the body parts through aorta.
[……………………………]
8- Blood vessels allow the blood to deliver food and oxygen to the cells.
[……………………………]
****

Give reasons for:

1- The circulatory system is called the system of transferring in the human body.
…………………………………………………………………………………
…………………………………………………………………………………
2- The blood is in a liquid.
…………………………………………………………………………………
…………………………………………………………………………………
3- The red blood cells have a great importance.
…………………………………………………………………………………
…………………………………………………………………………………
4- The rate of the heart beat increase during exercise.
…………………………………………………………………………………
…………………………………………………………………………………
5-Aoarte is the largest artery in the body.
…………………………………………………………………………………
…………………………………………………………………………………
6-The white blood cells are called the defense cells.
…………………………………………………………………………………
…………………………………………………………………………………

Lesson (2): Excretion and human urinary system

Complete:

1-……………..and………………are the two types of wastes that expelled outside the body.

2-………………are the indigested food stored in the large intestine.

3-The excretory materials contain ………………..materials and ……………materials.

4-………………and ……………..are from the waste materials produced from burning the digested food with oxygen.

5-The waste materials that are produced from breaking down of proteins known as ……………………which are ………………….and……………………….

6-The urinary system is located inside the ………………….cavity

7-You must not urinate in irrigation canals to avoid ………………...disease.

8-The kidney is a ………………shaped organ.

9-………………carries the blood containing waste materials to the kidneys.

10-The ……………….stores the urine until it is released outside the body.

11-The urine is expelled outside the body from the urinary bladder through ………….

12-The function of the kidney is affected when you keep …………… in it for a long time.

****

Write the scientific term :

1- Carbon dioxide, water vapour, nitrogenous wastes and excess salt.

[…………………………..]

2- The two organs that clarify the body from cell wastes and harmful substance0

[…………………………..]

3- A balloon sac-like organ that stores urine temporarily.

[………………………….]

4- A blood vessels that allows blood to enter the kidney.

[………………………….]

5- A blood vessel that carries the purified blood from the kidney.

[………………………….]
6- A gland which get rid of excess salts and excess water.
[………………………….]
7- A liquid which is produced by the skin.
[………………………….]
****

Give reasons for:

1- Body cells release their wastes into the blood.
………………………………………………………………………………………
………………………………………………………………………………………
2- The human body must get rid of the excretory materials.
………………………………………………………………………………………
………………………………………………………………………………………
3- There are two ureters in the urinary system.
………………………………………………………………………………………
………………………………………………………………………………………
4- You must not keep urine for a long time.
………………………………………………………………………………………
………………………………………………………………………………………
5- You must eat food low in salts.
………………………………………………………………………………………
………………………………………………………………………………………
6- The kidneys products us from poisoning.
………………………………………………………………………………………
………………………………………………………………………………………
7- You must not urinate or wash in irrigating canals.
………………………………………………………………………………………
………………………………………………………………………………………

Unit (3): The soil

Lesson (1): Soil components

Complete:

1- …….is a thin non-compacted superficial layer which covers ……………

2- The soil contains gravels that produced from breaking down of ……………….

3- Water, ……………,……………..and……………..are from the soil components.

4-Humus affects the …………… of the soil.

5-……………..is the decayed remains of animals and plants that mixed with the soil components.

6-Soil is composed of different layers which are …………,………and………….

7- The origin of the agricultural soil of Egypt is the rocks of ……………….

8- The soil contains gravel that produced from breaking down of ………….

****

Give reasons for:

1-The soil is the main component of the environment.

…………………………………………………………………………………

…………………………………………………………………………………

2- Roots of plants are important for soil .

…………………………………………………………………………………

…………………………………………………………………………………

3- The organisms that live in the soil have a great importance.

…………………………………………………………………………………

…………………………………………………………………………………

Write the function of the following:

1- The roots of the plant:……………………………………………………………………………
……………………………………………………………………………………………………
2- The Earthworm: ……………………………………………………………………………
……………………………………………………………………………………………………
3- The soil: ……………………………………………………………………………………
……………………………………………………………………………………………………

Lesson (2): Types of soil

Choose:

1- The size of particles of clay soil is …………………..
(Large – small – medium)
2- The particles of silt soil are ……………….. in size.
(Tiny – medium – large – very large)
3- The silt soil compactness is …………………..
(Strong – weak – medium - very strong)
4- The aeration of sand soil is …………………….
(Good – bad – medium – poor)
5- The sand soil ……………..water more than the other two types of soil.
(Drains – retains – keeps)
6- The most suitable soil for cultivation is the ………………
(Sand soil – clay soil – silt soil – gravel soil)
7- Strawberry and Oranges grow in ……………… soil.
(Sand – clay – silt – clay& sand)

****

Complete the following:

1- The main types of soil are ………………, ………..…. and ……………
2- The colour of ………………..soil is dark, while that of ………… soil is yellow.
3- The compactness in ………………………….soil is very weak, while that in ……………… soil is very high.
4- The ………………………. soil is highly fertile, because it contains a large amount of ………………………………
5- Clay soil keeps ………….water, while …………………. soil keeps less water.
6- Silt soil aeration is ……………….., while clay soil compactness is …………. and silt soil fertility is………………………
7- Cactus grows in ………………. soil, while cotton grows in…………. soil.

Give reasons for:

1- The water level in clay soil is higher than the water level in both sand& silt soil.

…………………………………………………………………………………………

…………………………………………………………………………………………

2- The clay soil is poorly aerated.

…………………………………………………………………………………………

…………………………………………………………………………………………

3- The silt soil is highly fertile.

…………………………………………………………………………………………

…………………………………………………………………………………………

****

Correct the underlined words:

1- The sand soil is strongly compacted, poorly aerated and fertile.

…………………………………………………………………………………………

2- The silt soil is poorly aerated.

…………………………………………………………………………………………

3- Cactus plant grows in the clay soil.

…………………………………………………………………………………………

4- Sweet potatoes grow in silt soil.

…………………………………………………………………………………………

5- The clay soil is yellow in color.

…………………………………………………………………………………………

****

Compare between:

Sand soil, silt soil and clay soil.

Lesson (3): Soil pollution

Complete the following:

1- The most important soil pollutants are ....,
……………………………,……………………………………

2- The …………………….is any change in the environment that disturbs its natural balance.

3- Increasing the periods between irrigation causes soil…………….

4- The materials that cause soil pollution are called …………………….

****

Give reasons for:

1- Soil pollutants are harmful.
…………………………………………………………………………………………
…………………………………………………………………………………………

2- Chemical pesticides are important.
…………………………………………………………………………………………
…………………………………………………………………………………………

3- Overusing of Chemical fertilizers is harmful.
…………………………………………………………………………………………
…………………………………………………………………………………………

4- Acidic rains are harmful to the soil.
…………………………………………………………………………………………
…………………………………………………………………………………………

5- Soil salinity is harmful to the soil.
…………………………………………………………………………………………
…………………………………………………………………………………………

6- Farmer must irrigate agricultural soil regularly.
…………………………………………………………………………………………
…………………………………………………………………………………………

Write the scientific term:

1- They are chemical compounds which compensate the poor soil with the elements needed for plant's growth. (…………………….)

2- They dissolve in irrigation water and rain water forming acidic rains. (……..………………...…..)

3- It prevents the plant growth. (……………………………………)

4- Any change in the environment that disturbs its natural balance. (………………..…………..)

5- Any change in the soil that disturbs its natural balance and harms its living organisms. (……………………………..)

****

Put (√) or (x) then correct the wrong one:

1- Adding natural fertilizers to soil leads to soil pollution. ( )

2- Increasing the period between irrigation times leads to increase the fertility of the soil. ( )

3- Soil pollution causes the disappearance of plants and animals. ( )

4- The pollution is any change in the environment that disturbs its natural balance. ( )

Second Term Revision (1)

1- Write the scientific term of each of the following :

- **a.** The cells that carry oxygen.
- **b.** The artery that carries oxygenated blood to all parts of the body.
- **c.** A set of small of smooth surfaces are put together between the internal surfaces of the moving objects of machine.
- **d.** A friction force between air and the moving objects through.
- **e.** The soil type rich with humus.
- **f.** The most aerated soil.

2. Write a brief account about each of the following:

- **a.** Friction.
- **b.** Plasma.
- **c.** Sand soil.
- **d.** Aorta.
- **e.** Sweat.
- **f.** Water resistance.

3. Choose the correct answer:

a. Carbon dioxide and water vapour are released by the ....

(kidneys - lungs – heart)

b. Urea is expelled by the ....

(heart – kidneys – lungs)

c. The heart is a muscular pump in a size of your ....

(fingers – foot – fist)

d. Blood vessels which carry blood from the heart are the ....

(arteies – veins – blood capillaries)

e. Blood components which are responsible for attacking the microbes causing diseases to man are the ....

(Red blood cells – White blood cells – Blood platelets)

f. The silt soil compactness is ....

(strong – weak – medium)

g. The origin of the agricultural soil in Egypt is from .... plateau

(Tibet – Golan – Ethiopian)

h. The particles of the clay soil is ....

(tiny – medium – large)

i. The water drains easily in the .... soil.

(silt – sand – slay)

j. Rice grows efficiently in .... soil.

(clay – silt – sand)

4. **Put (√) or (X) in front of each of the following sentences and correct the wrong sentences:**

a. Eating diets rich in fats and salts activate the circulatory system. (   )

b. The kidney filters excess water and salts from the human's food. (   )

c. Keeping the urine and delaying getting rid of it benefit urinary bladder. (   )

d. Ureter is a tube extends from the bladder to open outside of the body. (   )

e. There are valves within the heart cavity. (   )

f. White blood cells defend the body against microbes. (   )

g. The day soil has poor aeration. (   )

h. The sand soil is strongly compact, has poor aeration and poorly fertile. (   )

i. The aorta delivers blood to the lungs. (   )

j. Humus is the remains of fragmented small rocks and was deposited on the Earth's surface. (   )

k. Cactus plant grows in clay soil. (   )

5. Complete the following sentences:

a. The friction force between the water and the object that moves through is called ……………

b. The friction force between the air and the object that moves through is called ……………

c. Friction force has its effect in the opposite direction of ……………

d. The value of …………… between two surfaces depends on the type of material of both surfaces.

e. …………… increases by the increase of surface area of a moving object.

f. The most important soil pollutants are …………… , …………… and ……………

g. The force of …………… acts in the direction of an object's motion.

h. The soil types are …………… , …………… and ……………

i. The …………… region in country of Egypt is considered as the best region for rice cultivation.

j. Silt soil aeration is …………… , clay soil compactness is …………… and the silt soil fertility is ……………

k. The origin of the agricultural soil in Egypt is the rocks of the …………… plateau.

Second Term Revision (2)

1. **Complete the following sentences:**

a. Pulmonary artery carries blood, while pulmonary vein carries .... blood.

b. .... is the blood vessel that transfers blood from heart to lungs.

c. .... is connected to the kidney and transfers ... to the bladder.

d. The body gets rid of excess salts and water through .... , while it gets rid of carbon dioxide through ....

e. The agricultural soil in Egypt is formed from .... plateau.

f. The .... soil contains more humus.

g. .... soil is the more compactable, while .... is the fast in drainage of water.

h. .... soil is the more suitable for cultivation of most plants.

i. .... , ... and .... are from the pollutants of the agricultural soil.

j. The wet roads leads to .... between the car tires and the road.

k. The circulatory system consists of .... , ... and ....

l. From the components of soil are .... , ... and ....

m. Rice grows efficiently in .... soil.

2. **What is meant by ... ?**

a. Pulmonary blood circulation.

b. Sweet glands

c. Humus.

d. Soil pollution.

e. Friction.

f. Ball bearings.

g. Major (systemic) blood circulation.

h. Blood vessels.

i. The ureter.

j. The urinary bladder.

k. The pulmonary artery.

l. The fertility of soil.

m. Soil.

n. Silt soil.

o. White blood cells.

p. Blood plasma.

3. **What is the function of the following:**
   a. Red blood cells.
   b. Blood platelets.
   c. Plasma.
   d. Kidney.

4. **Give reasons for each of the following:**
   a. The presence of a valve between each atrium and ventricle.
   b. We should not eat a lot quantity of fats.
   c. The walls of the blood capillaries are thin.
   d. Faeces cannot be considered as an excretory material.
   e. The car's movement needs friction force.
   f. Avoid the overuse for chemical fertilizers.
   g. The bat stretches its wings on landing.
   h. Train has a streamline shape.
   i. The use of lubricants and oil in the internal parts of machines.
   j. Putting ball bearings between the internal moving parts of machines.
   k. Presence of grooves in the car's tire.
   l. The aeration of the sand soil.

5. **Choose The Correct answer in each of the following:**
   a. The grow of …………… is preferred in sand soil.
      (peanut plant - cotton - vegetables - wheat)
   b. …………… receives the oxygenated blood from lungs.
      (left atrium - right atrium - right ventricle - left ventricle)
   c. The brakes of the car is an application on ……………
      (energy - friction - motion - speed)
   d. Adding natural fertilizers to the agricultural soil leads to ……………
      (increasing fertility - decreasing fertility - death of living organisms - soil pollution)
   e. The friction force is In a direction to the direction of motion ……………
      (opposite to - perpendicular to - parallel to – same)

f. …………… coagulate blood when the body is wounded.

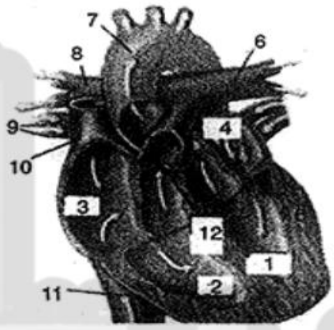
(red blood cells – white blood cells – plasma – blood platelets)



6. Look at the opposite diagram then answer:

a. Illustrate with arrows the path of blood in the heart.

b. Mention the kind of blood in each atrium.



7. Look at the opposite diagram then answer:

a. Label the diagram from 1 to 12.

b. Mention the function of the indication (12)

c. Mention the kinds of blood vessels.

8. What happens in case of?

a. The agricultural soil is polluted with chemical fertilizers.

b. Cultivation of bean plant in salinity soil.

c. Absence of root plants in the soil.

d. Absence of microorganism from the soil.

e. The human body cannot gets rid of from wastes.

f. The human body keeps urine for a long period.

g. Eating foods containing many salts.

h. The two sides of the heart are not separated from each other.

i. Running for 5 minutes with respect to heart beats.

j. Absence of friction between car's tire and the road.

k. Absence of friction between your shoes and the road.

l. Increasing the speed of swimmer in water.

m. Moving cars with high speed on wet roads.

n. No lubrication takes place periodically on the metallic machine parts.

9. **Join from column (A) with the suitable in column (B):**

Column (A)	Column (B)
1. The right atrium.	**a.** Pumps oxygenated blood to aorta.
2. The right ventricle.	**b.** Pumps blood out to lungs.
3. The left atrium.	**c.** Allows blood to flow only from atrium to ventricle.
4. The left ventricle.	**d.** Carries deoxygenated blood to lungs.
5. Pulmonary vein.	**e.** Receives deoxygenated blood from venae cavae.
6. Pulmonary artery.	**f.** Pumps oxygenated blood out to all body parts.
7. Valve.	**g.** Transfers oxygenated blood from lungs to heart.
	h. Receives oxygenated blood from pulmonary veins.

Column (A)	Column (B)
1. Red blood cells.	**a.** It is a watery fluid.
2. White blood cells.	**b.** Coagulate blood.
3. Blood platelets.	**c.** Pumps blood out to all body parts.
4. Plasma.	**d.** Carry oxygen gas from lungs to all the body cells.
	e. Defend the body against microbes.

Column (A)	Column (B)
1. Chemical fertilizers.	**a.** Used Instead of chemical fertilizers to avoid soil pollution.
2. Soil salinity.	**b.** Leads to increasing the soil acidity.
3. Natural fertilizers.	**c.** Increasing soil salinity in case of overuse.
4. Industrial wastes.	**d.** Harms the human's and animal's health.
	e. Increase salts in soil.
	f. Forming silt soil.

Column (A)	Column (B)
1. Silt soil.	**a.** Fast drainage of water.
2. Clay soil.	**b.** Rich with humus.
3. Sand soil.	**c.** Dark color.
	d. Slow drainage of water.

Model Exam (1)

Question (1):

What is meant by the following:

1. Friction force.
2. Excretory materials.
3. Minor blood circulation.

Question (2):

Put (√) or (x) in front of each of the following sentences and correct the wrong sentences:

1. Lubricants and oil are used for decrease the friction force. ( )
2. The heart hag two sides. ( )
3. The sandy particles are large and weak compactness. ( )

Question (3):

Complete the following statements:

1. The resistance of water is in a direction .... to direction of object's motion.
2. The presence of .... in car tires reduces the effect of friction force.
3. The deoxygenated blood carries .... gas, while the oxygenated blood carries .... gas.

Question (4):

Prove with a practical experiment:

1. Soil drainage of water differs according to their types.
2. The friction force changes by changing the type of the material surface.

Question (5):

What happens when:

1. The human kidney cannot work properly.
2. The agricultural soil is not fertile.

Modem Exam (2)

Question (1):

Write the scientific term for each of the following:

1. Small balls with smooth surfaces are putting between the internal moving parts of machines.
2. The loose upper layer that covers the earth's crust.
3. The decayed remains of living organisms that exists in the soil.

Question (2):

Put (√) or (x) in front of each of the following sentences and correct the wrong sentences:

1. At the exposed surface area of the object increases, the resistance of air increases. ( )
2. The consumption of fuel increases as the car speed increases. ( )
3. Red blood cells defends the body against microbes. ( )

Question (3):

Complete the following statements:

1. ………… is the organ responsible for filtering the blood from wastes in the urinary system.
2. ………… is the blood vessel that transfers the blood from heart to all body parts.
3. ………… soil is composed of clay, silt particles and few amount of sand and humus.

Question (4):

How can you keep your excretory system healthy?

Question (5):

Compare practically between the three types of soil from the point of view of:

1. **The compactness of the soil.**
2. **The aeration.**
3. **Absorption of water.**